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Catena Technologies

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December 13, 1999

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Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Docket No. 96-98 Ex parte presentation

Dear Ms. Magalie Roman Salas:

On December 7, Jim Hjartarson, Chairman and CTO and Gary Bolton, VP Business Development of Catena Technologies met with Staci Pies, Vincent Paladini, and Christopher Libertelli from the Common Carrier Bureau, Policy Division, and Doug Sicker and Jerome Stanshine from OET. During this meeting, Catena provided an ex parte presentation and oral discussion related to the proceeding under Docket No. 96-98.

Catena and the FCC share a common goal of accelerating the availability and affordability of advanced services to all Americans. During the meeting, Catena provided information on the advancement of highly integrated broadband (voice + data) solutions that will significantly drive down the cost and will accelerated the availability of advanced services. These voice + data integrated solutions become critical in the availability of advanced services to rural communities serviced from Digital Loop Carriers. Catena's intent is to raise awareness of these technological advancements to the FCC to ensure that regulatory policies allow (encourage) Service Providers to deploy Broadband Integrated (voice + data) solutions which result in accelerated deployment, wide availability and low consumer pricing of Advanced Services.

Enclosed is an original and one copy of the ex parte presentation.

Sincerely,

Tammy Cameron

for Gary Bolton
Vice President, Business Development

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List ABCDE

Broadband enabling every subscriber line on the planet

Catena Technologies

Broadband enabling every telephone line on Earth

Ex parte Presentation

Docket No. 96-98

Gary Bolton
Vice President, Business Development
December 7, 1999

Industry Trends

Mass Market Consumers

- **Thriving Market for Low Cost Voice Service (POTS)**
  - 880M POTS Line Deployed Worldwide
  - 60M POTS Lines Ship per Year (growing at 8%)

Over $6B per year

- **Demand for High Speed Access to the Internet**
  - DSL Deployment is Slow (<300K lines deployed)

Highly Price Elastic!

Service Providers

Network Convergence (of Voice and Data)

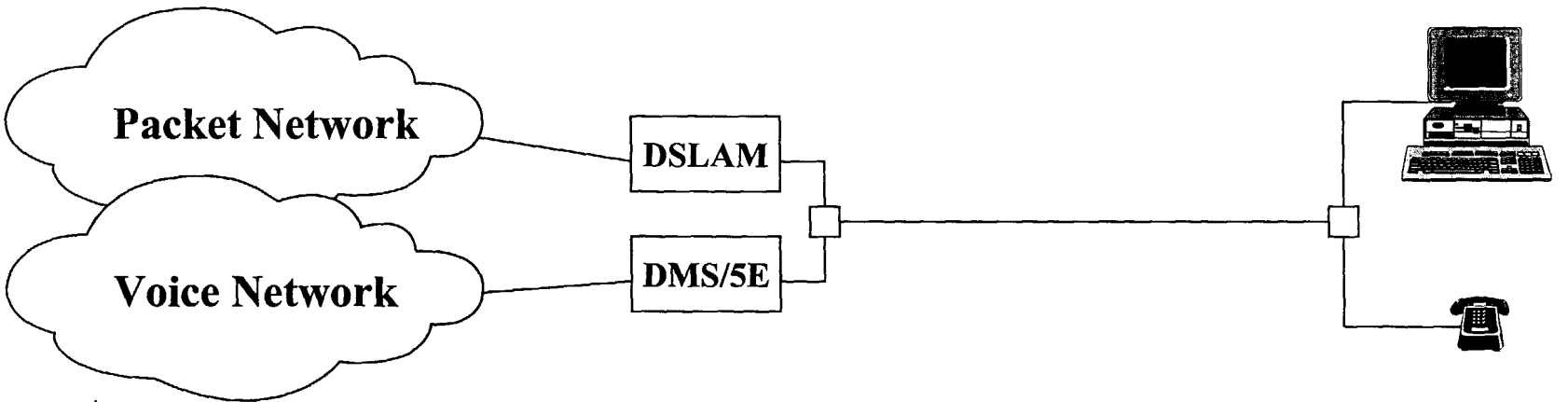
- The Legacy Voice Network is Not Designed to Handle Internet Data Traffic
- Replacement of TDM (Voice) Network with Packet-Based Network

ILECs:	**Voice**	⇨	**Voice + Data**	**Bundle Services**
DLECs:	**Data**	⇨	**Data + Voice**	***Max Revenue $***

880M Subscribers Must Migrate to a Packet-based Network .....Enabling the Convergence of Voice and Data

Sources: DataQuest, Goldman Sachs Research

Network Convergence - The Trap



Voice

POTS to TDM Network

Overlay Network

Cost	= D + V
Density	= D + V
Power	= D + V

Data

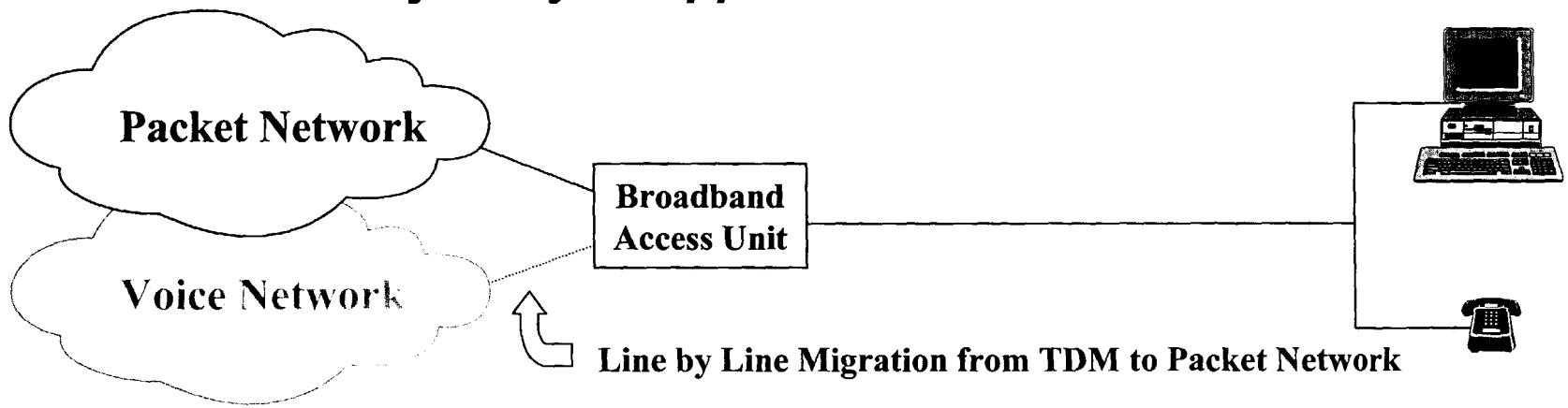
DSL to Packet Network

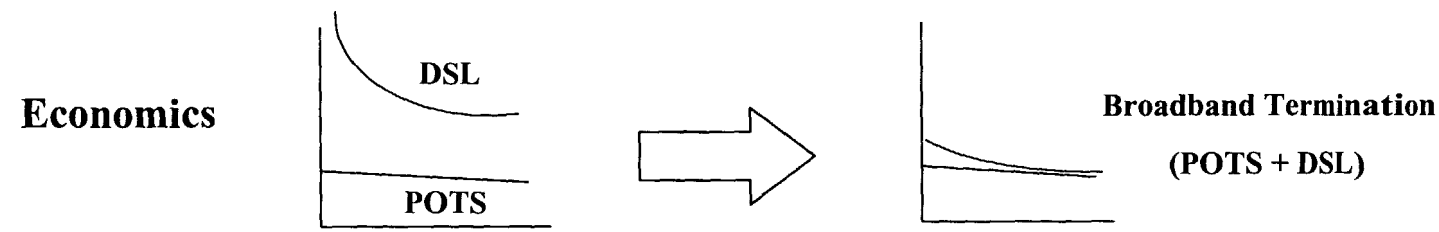
The Result:

Poor Economics, Slow Deployment

Solution

Integrated Solutions Set Voice + DSL Convergence on Trajectory to Approach POTS Economics



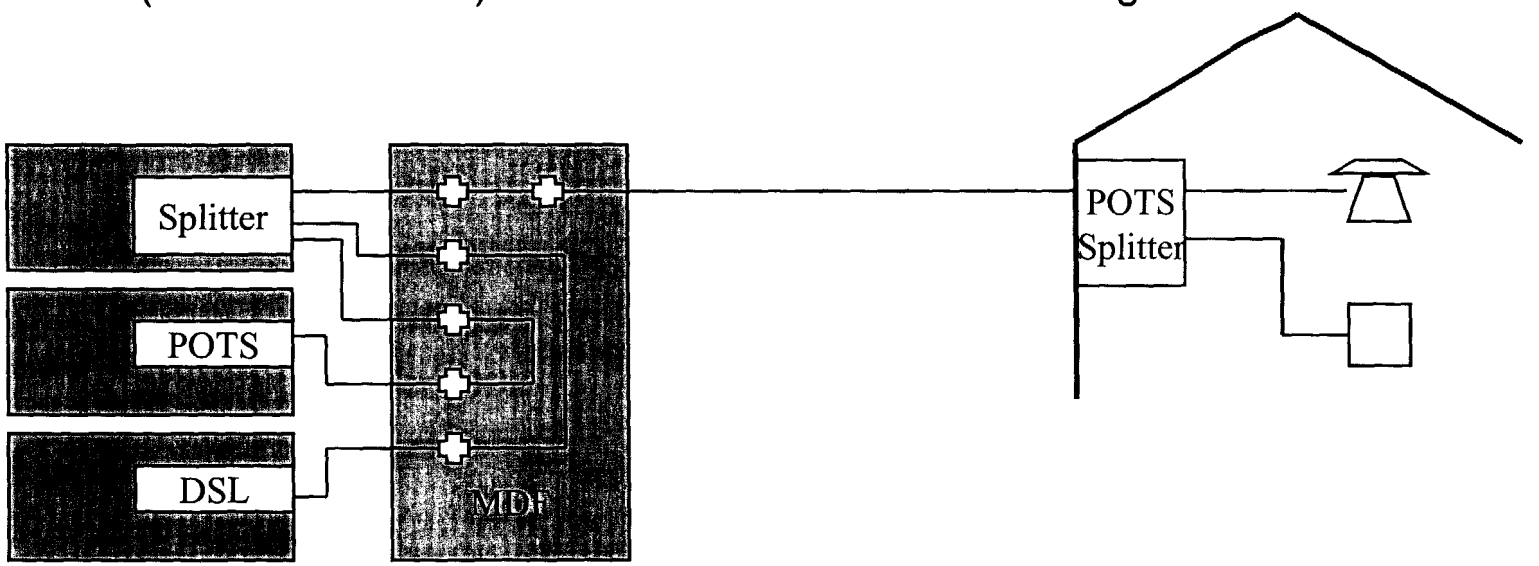


Creates Market Discontinuity

DSL (+Voice) Deployment Accelerates by Displacing POTS-Only Deployment

Line Sharing Topology

- **To support a CLEC request for "Line Sharing":**
  - The traditional DSLAM model requires the addition of a POTS splitter shelf (or MDF mounted) and DSL shelf as well as re-wiring of the MDF.

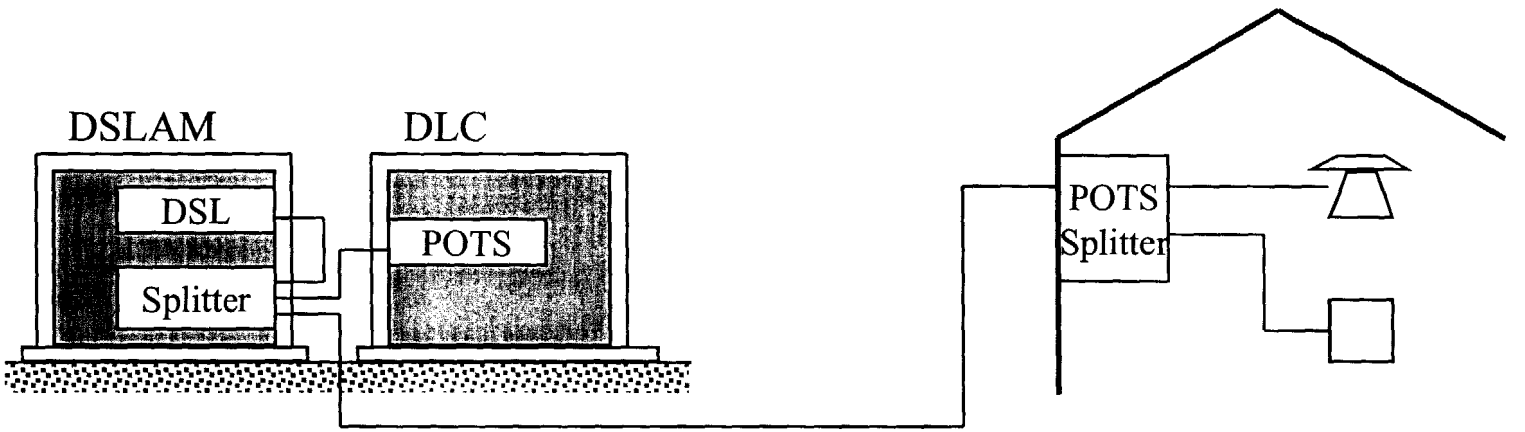


- **ILEC retains voice frequency spectrum utilized for POTS.**
- **ILEC and CLEC support system interfaces required to automate, control and record the appropriate facility, loop and MDF assignments.**

The "DLC Challenge"

To install DSL in DLC application

- Pour new concrete pad, cut up subterranean cable bundle, add new DSLAM



Complications:

- "MDF" access to assign high and low frequencies to alternate carriers
- Right of Way Issues / Delays to install new equipment
- Space Availability for new pads, equipment and transport gear.

Broadband Access Summary

- **Available and affordable Advanced Services to all Americans is dependent on:**
  - Speed of Deployment
  - Service Area Coverage (including Rural areas)
  - Low Cost
- **Integrated Broadband (voice + data) solutions are required for full availability of Advanced Services**
  - Significant cost advantage (vs overlay solutions) resulting lower consumer pricing
  - Speeds deployment (no MDF rewiring, simplified OAM&P)
  - CO POTS Splitters strand bandwidth
  - Enables the network migration from TDM to Packet-based networks
  - Allows the deployment of future broadband services
  - Promotes and enables competition (via virtual unbundling)
  - Enables Advance Service deployment in remote applications (DLCs, FTTC, etc...)
  - Multiple Vendors are developing integrated voice + data solutions
    - Catena, Nortel, Lucent, Alcatel (DSC), AFC

Conclusion

The FCC should ensure that regulatory policies allow (encourage) Service Providers to deploy Broadband Integrated (voice + data) solutions which result in accelerated deployment, wide availability and low consumer pricing of Advanced Services.

Applications that significantly benefit from Broadband Integrated (voice + data) solutions are Digital Loop Carriers and Fiber to the Curb, as well as Central Office access platforms.